Minimal Working Example

What this textbook section is about. One or two sentences.

Motivating Questions

- Question 1

- Question 2

Subsection Title

Start every file with a section.

Problem Types in the Text

Exploration 1 *This is a question where the answer is not proviced in the text. The idea is that students will work on together in lecture. It often motivates the upcoming content.*

   a. *Problem 1*

   b. *Problem 2*

Problem 2 *Use a Problem when students are supposed to enter an answer. These should be straightforward things or the answer should be in a* hint *or explanation. And the answer should be given in the printed text.* $y = \boxed{10x}$

Hint: *Hint here*

Explanation. *One approach to pattern recognition is to look for a relationship in each row. Here, the y-value in each row is always 10 more than the x-value. So the pattern is described by the equation* $y = 10x$

Example 1. *A standard example with solution in the text.*

Explanation. *Every example should have an explanation.*

Learning outcomes:
Author(s): Elizabeth Miller

Other Environmentsin the Text

Remark 1. *Something you want to call attention to in the text.*

> **Definition** Define a word or words. Be sure to use the dfn command around your **vocab words**.

> Something that you want to standout that is not a remark. Basically just puts it in a blue box.

> # Summary
>
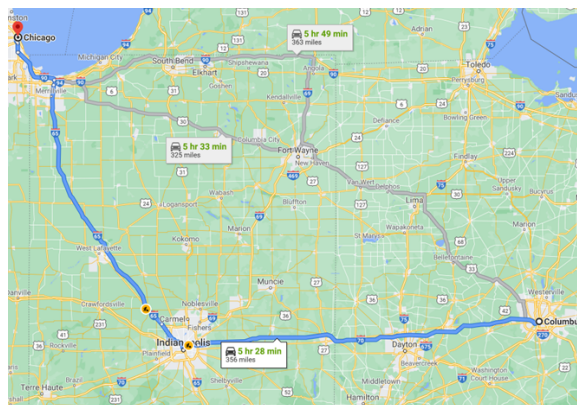> - First point
>
> - Second point

Tables and Graphs

How to make a table:

t	V
0	0.0
1	0.5
2	1.0
3	1.5
4	2.0
5	2.5

Side-by-side tables (or images or whatever):

t	$r(t)$
0	12
3	10
6	8
9	6

t	$s(t)$
0	12
3	9
6	6.75
9	5.0625

How to make an image:

Draw graphs in tikzi when possible. Here are two.
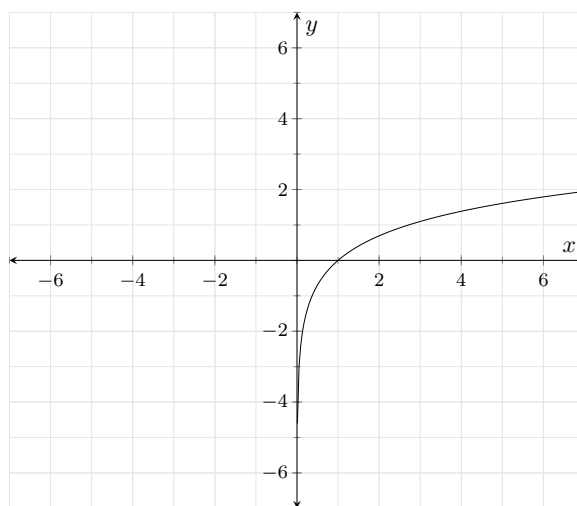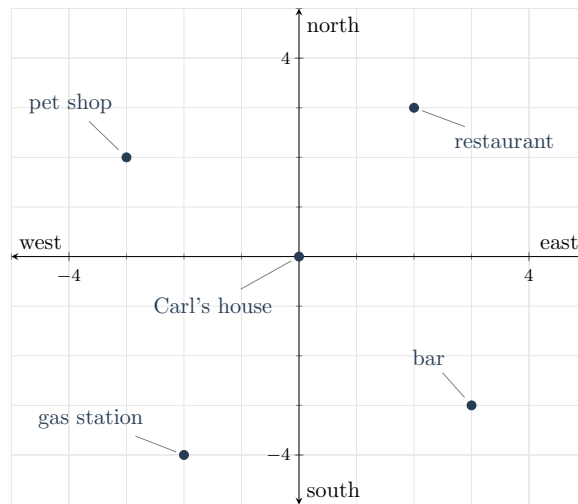
You can also add Desmos interactives. Create them in a Desmos account (I think we have an OSU one. We should look into that!). Save them. Then pull the graph number out of the url.

Desmos link: https://www.desmos.com/calculator/lxllnpdi6w

Online Features

To add a url, use the link command. For more about formatting in Ximera see this url .

You can also embed YouTube videos.

YouTube link: https://www.youtube.com/watch?v=0aQpLSu2fMs

See this url at https://ximera.osu.edu/intro/gettingStarted/graphicsAndVideos/graphicsAndVideos

See YouTube at https://www.youtube.com/

SOME LICENSE WORDS

Overviews

Each Unit has an overview with the organization and learning objectives

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Unit Overview

- Generally a folder

  (i) some stuff covered in these sections *a subtopic another subtopic*

  (ii) More stuff

- Another Folder

  (i) Stuff

Learning Objectives

- Learning Objectives Category (Course level learning objective)

  – more specific goal

  – another one

- Another Category

  – Linear

  – Parabolas

  – Polynomials

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Homework

Each homework problem should be it's own file. Then the homework is put together using an exerciselist file. See a Unit 1 folder for an example. Be sure to keep all the same conventions, just changing the actual problem.

Some Ximera problem types are available in the footnote . We can add more here as we come across them.

Labeling and Referencing

Depending upon how a source file is compiled, the numbering of examples may be changed. When compiling a single source file, this could be a small value, but when included and compiled as a larger file or as other examples are included, that number could change. Using Labels and References will allow us to refer to the examples by number in the text, but will adjust the numbering of those references to match the numbering of the example at compile-time.

Adjusting the numbering for exercises is handled through labels (using the $\backslash label$ command) and references (using the $\backslash ref$ command). The \label command adds a virtual label (which you have to give a name for), which identifies the counter associated with the object you're labelling. It doesn't typeset anything, just identifies the value of that particular counter with the name of the label. The \ref command prints out the value of that label (you have to reference the name of the label you have previously created).

For example, here is a sample example:

Example 2. *A Sample example is here*

In the code, immediately after \begin{example} (but before the text of the example), you'll see \label{example:SampleExample}. This creates the label for the example counter that we've named *example:SampleExample.* (It could have been named something as simple as "*Ex*" or "*a*". The name "*example:SampleExample*" was picked for readability.) The counter value is set at that $\backslash begin\{example\}$ statement, so your $\backslash label$ should be immediately after it, before any other text.

When we want to reference this example later, we have to use \ref{example:SampleExample}, which here has value 2,

This means the code "Example \ref{example:SampleExample}" is typeset as "Example 2". The numbering will be updated according to how the Example is numbered when compiled.

See in the footnote at https://ximera.osu.edu/intro/gettingStarted/ questionAndAnswerTypes/questionAndAnswerTypes

> In order for this referencing to work, you have to compile the source file TWICE!

The first time through, the compiler will assign values to the counters and store the values of the labels in the aux files it generates. The second time through, the compiler will actually add the values of those references to the typeset document. (This is a standard issue for virtually all compilers with preprocessing options. Most run twice automatically, but LaTeX/pdfLaTeX defaults to only running once.) If you see the references showing up as question marks instead of as numbers, try compiling another time or two.

In LaTeX, captions/labels/references are for figures, not for images or tikzpictures. To add a caption/label/reference for a graph, it has to be in an outer *figure* environment, so put the whole thing inside an $\backslash begin\{figure\}$ ... $\backslash end\{figure\}$ block. LaTeX places figures wherever it decides is best, not based on where it appears in the source file. You can demand it to go where it appears in the source by using the option *!h*. This makes the opening tag look like: $\backslash begin\{figure\}[!h]$. (The exclamation point is an override to the default *figure* setup, and the h says you want the figure *here*.)
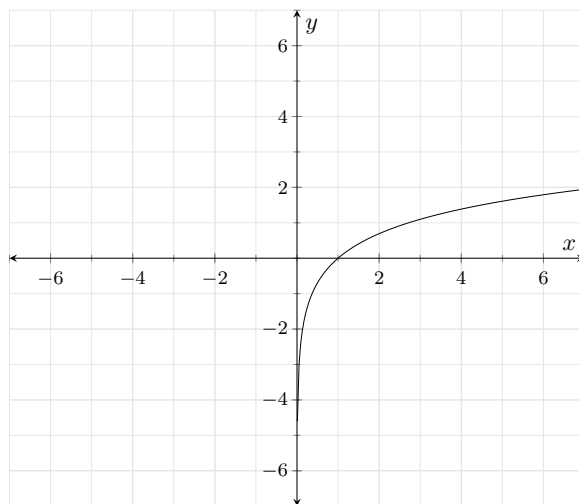
Figure 1: Here is an example graph

The last three lines should be the $\backslash caption\{ ... \}$, followed by $\backslash label\{...\}$, then the $\backslash end\{figure\}$. The order here is important. The caption statement has to come before the label.

Referencing these figures is exactly the same as with examples: Here was Figure 1